

CLAIMS

What is claimed is:

1. A method for adaptively tracking the position of an entry portal, wherein the sensed position of the entry portal position is transmitted at a predetermined transmit interval, said method comprising:

synchronizing the activation of a receiver with said transmit interval such that the receiver receives entry portal position signals transmitted at the predetermined transmit interval; and

updating a receiver output indicator in accordance with the entry portal position determined by the received entry portal position signal.

2. The method of claim 1, further comprising determining a receiver activation mode in accordance with the received entry portal position signal as sensed and transmitted by a transmitter assembly.

3. The method of claim 2, wherein the transmitter assembly senses and transmits fully open or fully closed position signals at a given transmit interval, said method further comprising, responsive to receiving a fully open or fully closed position signal at the transmit interval immediately preceding the given transmit interval, operating said receiver in a periodic receive mode wherein receiver activation periods are synchronized with the transmit interval.

4. The method of claim 3, further comprising updating the output of a receiver output device in accordance with the received fully open or fully closed signal.

5. The method of claim 2, wherein the transmitter assembly senses and transmits an intermediate position signal at a given transmit interval, said method further comprising, responsive to receiving the intermediate position signal, operating said receiver in a continuous receive mode.

1 6. The method of claim 5, wherein the continuous receive mode is maintained for a
2 maximum duration that is an approximate multiple of the transmit interval.

1 7. The method of claim 6, wherein the continuous receive mode is maintained for a
2 maximum duration that is four times the duration of the transmit interval.

1 8. The method of claim 5, further comprising updating the output of a receiver output
2 device in accordance with the received intermediate position signal.

1 9. The method of claim 5, wherein the transmitter assembly transmits a fully open or
2 fully closed position signal asynchronously during the continuous receive mode when the
3 transmitter assembly senses a fully open or fully closed position following sensing an
4 intermediate position, said method further comprising, responsive to receiving the fully
5 open or fully closed position signal during the continuous receive mode, re-synchronizing
6 the activation of the receiver with the transmit interval.

1 10. The method of claim 1, wherein said synchronizing comprises:
2 receiving a first transmitter assembly signal;
3 initiating a counter to determine the transmit interval in accordance with the
4 arrival of a subsequent transmitter assembly signal; and
5 determining a receiver activation interval the temporally coincides with the
6 transmit interval, wherein during the receiver activation interval, the receiver is activated
7 for a subpart of the receiver activation interval.

1 11. The method of claim 10, wherein the receiver activation interval is approximately ten
2 seconds and the receiver is activated during each receiver activation interval for
3 approximately one second such that the activation of the receiver during each activation
4 interval temporally coincides with the transmitter signal delivered during each transmit
5 interval.

1 12. The method of claim 1, further comprising responsive to the receiver receiving no
2 transmitted position signal for specified period, commencing a continuous listen
3 activation mode for a duration that is greater than the transmit interval.

1 13. The method of claim 12, further comprising, responsive to receiving a transmitted
2 position signal during said continuous listen activation mode, re-synchronizing the
3 activation of the receiver with the transmit interval.

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1 14. A system for adaptively tracking the position of an entry portal, wherein the sensed
2 position of the entry portal position is transmitted at a predetermined transmit interval,
3 said method comprising:

4 electronic processing means for synchronizing the activation of a receiver with
5 said transmit interval such that the receiver receives entry portal position signals
6 transmitted at the predetermined transmit interval; and

7 electronic output means for updating a receiver output indicator in accordance
8 with the entry portal position determined by the received entry portal position signal.

1 15. The system of claim 14, further comprising means for determining a receiver
2 activation mode in accordance with the received entry portal position signal as sensed
3 and transmitted by a transmitter assembly.

1 16. The system of claim 13, wherein the transmitter assembly senses and transmits fully
2 open or fully closed position signals at a given transmit interval, said system further
3 comprising, means responsive to receiving a fully open or fully closed position signal at
4 the transmit interval immediately preceding the given transmit interval, for operating said
5 receiver in a periodic receive mode wherein receiver activation periods are synchronized
6 with the transmit interval.

1 17. The system of claim 16, further comprising means for updating the output of a
2 receiver output device in accordance with the received fully open or fully closed signal.

1 18. The system of claim 15, wherein the transmitter assembly senses and transmits an
2 intermediate position signal at a given transmit interval, said system further comprising,
3 means responsive to receiving the intermediate position signal, for operating said receiver
4 in a continuous receive mode.

1 19. The system of claim 18, wherein the continuous receive mode is maintained for a
2 maximum duration that is an approximate multiple of the transmit interval.

1 20. The system of claim 19, wherein the continuous receive mode is maintained for a
2 maximum duration that is four times the duration of the transmit interval.

1 21. The system of claim 18, further comprising means for updating the output of a
2 receiver output device in accordance with the received intermediate position signal.

1 22. The system of claim 18, wherein the transmitter assembly transmits a fully open or
2 fully closed position signal asynchronously during the continuous receive mode when the
3 transmitter assembly senses a fully open or fully closed position following sensing an
4 intermediate position, said system further comprising, means responsive to receiving the
5 fully open or fully closed position signal during the continuous receive mode, for re-
6 synchronizing the activation of the receiver with the transmit interval.

1 23. The system of claim 14, wherein said electronic synchronizing means comprises:
2 a receiver module for receiving a first transmitter assembly signal;
3 means for initiating a counter to determine the transmit interval in accordance
4 with the arrival of a subsequent transmitter assembly signal; and
5 means for determining a receiver activation interval the temporally coincides with
6 the transmit interval, wherein during the receiver activation interval, the receiver is
7 activated for a subpart of the receiver activation interval.

1 24. The system of claim 23, wherein the receiver activation interval is approximately ten
2 seconds and the receiver is activated during each receiver activation interval for
3 approximately one second such that the activation of the receiver during each activation
4 interval temporally coincides with the transmitter signal delivered during each transmit
5 interval.

1 25. The system of claim 14, further comprising means responsive to the receiver
2 receiving no transmitted position signal for specified period, for commencing a
3 continuous listen activation mode for a duration that is greater than the transmit interval.

- 1 26. The system of claim 25, further comprising, means responsive to receiving a
- 2 transmitted position signal during said continuous listen activation mode, for re-
- 3 synchronizing the activation of the receiver with the transmit interval.

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1 27. A computer program product residing on a computer-readable medium for adaptively
2 tracking the position of an entry portal, wherein the sensed position of the entry portal
3 position is transmitted at a predetermined transmit interval, said computer program
4 product having computer-executable instructions for performing a method comprising:

5 synchronizing the activation of a receiver with said transmit interval such that the
6 receiver receives entry portal position signals transmitted at the predetermined transmit
7 interval; and

8 updating a receiver output indicator in accordance with the entry portal position
9 determined by the received entry portal position signal.

1 28. The program product of claim 27, further comprising determining a receiver
2 activation mode in accordance with the received entry portal position signal as sensed
3 and transmitted by a transmitter assembly.

1 29. The program product of claim 28, wherein the transmitter assembly senses and
2 transmits fully open or fully closed position signals at a given transmit interval, said
3 method further comprising, responsive to receiving a fully open or fully closed position
4 signal at the transmit interval immediately preceding the given transmit interval,
5 operating said receiver in a periodic receive mode wherein receiver activation periods are
6 synchronized with the transmit interval.

1 30. The program product of claim 29, wherein said method further comprises updating
2 the output of a receiver output device in accordance with the received fully open or fully
3 closed signal.

1 31. The program product of claim 28, wherein the transmitter assembly senses and
2 transmits an intermediate position signal at a given transmit interval, said method further
3 comprising, responsive to receiving the intermediate position signal, operating said
4 receiver in a continuous receive mode.

1 32. The program product of claim 31, wherein the continuous receive mode is
2 maintained for a maximum duration that is an approximate multiple of the transmit
3 interval.

1 33. The program product of claim 32, wherein the continuous receive mode is
2 maintained for a maximum duration that is four times the duration of the transmit
3 interval.

1 34. The program product of claim 31, wherein said method further comprises updating
2 the output of a receiver output device in accordance with the received intermediate
3 position signal.

1 35. The program product of claim 31, wherein the transmitter assembly transmits a fully
2 open or fully closed position signal asynchronously during the continuous receive mode
3 when the transmitter assembly senses a fully open or fully closed position following
4 sensing an intermediate position, said method further comprising, responsive to receiving
5 the fully open or fully closed position signal during the continuous receive mode, re-
6 synchronizing the activation of the receiver with the transmit interval.

1 36. The program product of claim 27, wherein said synchronizing comprises:
2 receiving a first transmitter assembly signal;
3 initiating a counter to determine the transmit interval in accordance with the
4 arrival of a subsequent transmitter assembly signal; and
5 determining a receiver activation interval the temporally coincides with the
6 transmit interval, wherein during the receiver activation interval, the receiver is activated
7 for a subpart of the receiver activation interval.

1 37. The program product of claim 36, wherein the receiver activation interval is
2 approximately ten seconds and the receiver is activated during each receiver activation
3 interval for approximately one second such that the activation of the receiver during each

4 activation interval temporally coincides with the transmitter signal delivered during each
5 transmit interval.

1 38. The program product of claim 27, further comprising responsive to the receiver
2 receiving no transmitted position signal for specified period, commencing a continuous
3 listen activation mode for a duration that is greater than the transmit interval.

1 39. The program product of claim 38, further comprising, responsive to receiving a
2 transmitted position signal during said continuous listen activation mode, re-
3 synchronizing the activation of the receiver with the transmit interval.

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1 40. A method for adaptively transmitting a sensed position of an entry portal, said
2 method comprising:

3 sensing a position of the entry portal; and
4 comparing the sensed position with a previously sensed position to determine the
5 timing of a next transmitted entry portal position signal.

1 41. The method of claim 40, further comprising:

2 determining that the sensed position is a fully open or fully closed position; and
3 responsive to determining that the previously sensed position is a fully open or
4 fully closed position, transmitting the sensed position in a synchronous manner at a next
5 periodic transmit interval.

1 42. The method of claim 40, further comprising:

2 determining that the sensed position is a fully open or fully closed position; and
3 responsive to determining that the previously sensed position is an intermediate
4 position, transmitting the sensed position in a synchronous manner at a next periodic
5 transmit interval.

1 43. The method of claim 40, further comprising:

2 determining that the sensed position is a fully open or fully closed position; and
3 responsive to determining that the previously sensed position is an intermediate
4 position, transmitting the sensed position asynchronously upon said determination.
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1 44. A system for adaptively transmitting a sensed position of an entry portal, said system
2 comprising:

3 means for sensing a position of the entry portal; and

4 means for comparing the sensed position with a previously sensed position to
5 determine the timing of a next transmitted entry portal position signal.

1 45. The system of claim 44, further comprising:

2 means for determining that the sensed position is a fully open or fully closed
3 position; and

4 means responsive to determining that the previously sensed position is a fully
5 open or fully closed position, for transmitting the sensed position in a synchronous
6 manner at a next periodic transmit interval.

1 46. The system of claim 44, further comprising:

2 means for determining that the sensed position is a fully open or fully closed
3 position; and

4 means responsive to determining that the previously sensed position is an
5 intermediate position, for transmitting the sensed position in a synchronous manner at a
6 next periodic transmit interval.

1 47. The system of claim 44, further comprising:

2 means determining that the sensed position is a fully open or fully closed position;
3 and

4 means responsive to determining that the previously sensed position is an
5 intermediate position, for transmitting the sensed position asynchronously upon said
6 determination.

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1 48. A computer program product residing on a computer-readable medium for adaptively
2 transmitting a sensed position of an entry portal, said computer program product having
3 computer-executable instructions for performing a method comprising:

4 sensing a position of the entry portal; and
5 comparing the sensed position with a previously sensed position to determine the
6 timing of a next transmitted entry portal position signal.

1 49. The program product of claim 48, said method further comprising:

2 determining that the sensed position is a fully open or fully closed position; and
3 responsive to determining that the previously sensed position is a fully open or
4 fully closed position, transmitting the sensed position in a synchronous manner at a next
5 periodic transmit interval.

1 50. The program product of claim 48, said method further comprising:

2 determining that the sensed position is a fully open or fully closed position; and
3 responsive to determining that the previously sensed position is an intermediate
4 position, transmitting the sensed position in a synchronous manner at a next periodic
5 transmit interval.

1 51. The program product of claim 48, said method further comprising:

2 determining that the sensed position is a fully open or fully closed position; and
3 responsive to determining that the previously sensed position is an intermediate
4 position, transmitting the sensed position asynchronously upon said determination.
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